

C L A I M S

1. A godet for guiding at least one yarn on a circumferential surface thereof, comprising
5 an elongate support which defines a central axis,
a tubular godet casing,
a plurality of bearings rotatably mounting said tubular godet casing upon the support for rotation about said central axis,

10 at least one of said bearings comprising a radially operative magnetic bearing which comprises a stationary part mounted to the support and a rotating part mounted to the casing so as to form a bearing gap between the rotating and stationary parts, and

15 wherein the stationary part comprises at least one pole element having at least one excitation winding, and wherein the rotating part includes a separate component of a magnetizable material, with the pole element and the separate component cooperating for guiding a magnetic
20 flux.

2. The godet of claim 1, wherein the separate component is of a laminated construction and is secured to an inner side of the tubular godet casing in a
25 projecting and/or an embedded manner, and wherein the laminated component radially opposes the ends of the pole element with a spacing that forms said bearing gap.

3. The godet of claim 2, wherein the laminated
30 component is formed by a plurality of disk-shaped, thin sheet metal rings, which are joined in an axial side-by-side relationship for guiding a magnetic flux in the circumferential direction of the godet casing.

4. The godet of claim 2, wherein the laminated component is formed by a plurality of thin sheet metal segments, which are joined in a circumferential side-by-side relationship for guiding a magnetic flux in the axial direction of the godet casing.

5. The godet of claim 2, further comprising an insulating layer formed between the godet casing and the laminated component for avoiding a heat exchange and/or a magnetic flux leakage between the laminated component and the godet casing.

6. The godet of claim 5, wherein the insulating layer is formed by an undulated casing ring, which is supported via outer undulations on the inner side of the godet casing.

7. The godet of claim 2, further comprising a cooling system associated with the laminated component for dissipating heat that develops in the laminated component.

8. The godet of claim 7, wherein the cooling system comprises a fluid stream producer which generates a cooling fluid stream which is adapted to flow through a plurality of bores within the laminated component and/or along a plurality of cooling ribs on the laminated component.

9. The godet of claim 2, wherein the stationary part of the magnetic bearing comprises a plurality of pole elements with a plurality of respective windings, with the pole elements being arranged in a single bearing

plane, and with a common laminated component being associated to the pole elements.

10. The godet of claim 2, wherein the stationary
5 part of the magnetic bearing comprises a plurality of pole elements with a plurality of respective windings, with the pole elements being arranged in a plurality of bearing planes, and with a laminated component being arranged in each of said planes.

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11. The godet of claim 10, wherein from bearing plane to bearing plane, at least some of the pole elements are arranged on the support with an angular displacement.

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12. The godet of claim 2, wherein a sensor is associated with each of the pole elements for determining the position of the godet casing, and wherein the sensors and the excitation windings of the pole elements are
20 connected to a bearing control unit.

13. The godet of claim 2, wherein the godet casing is supported by means of two radially operative magnetic bearings and one thrust bearing, with the stationary
25 parts of the magnetic bearings comprising a plurality of pole elements with excitation windings, and the rotating parts of the magnetic bearings comprise a plurality of the laminated components.